

ABSTRACT OF THE DISCLOSURE

A method is disclosed for providing inorganic and/or organic coating compositions onto rotor cores to eliminate soldering during aluminum injection. These coatings can also be applied upon electric motor rotors and/or stators laminates as well as other electronic components such as transformers. The disclosed method provides a coating upon a zinc core (e.g., having threads or holes) that is embedded within a cast metal and in turn removed from the casting in order to define a cavity within the casting. The disclosed method also provides at least one film or layer of a coating composition within channels or bar slots defined by the rotor of the electric motor core/rotor (depending upon the design of the motor the slots can be defined within the rotor or open ended along the longitudinal axis of the rotor). The coating composition is also typically applied upon all exposed surfaces of the rotor, e.g., within the channels and exterior surfaces of the rotor. The coated rotor is then contacted with a molten metal. The coating composition functions to isolate the laminates (e.g., steel) of the rotor from a molten metal (e.g., aluminum and its alloys), which surrounds the rotor and fills the channels thereby embedding the rotor, and prevents the metal from forming an undesirable conductive path typically termed soldering among the individual laminates.